What is claimed is:

1. Apparatus for continuously forming a flexible mat defined by a plurality of spaced, interconnected concrete panels, said apparatus comprising:

a. a rotatable drum having a plurality of circumferentially-disposed mold cavities carried at an outer periphery of the drum;

b. a trough overlying the drum and having an elongated outlet opening extending across an axial direction of the drum for providing a substantially uniform flow of a flowable concrete mix into the respective mold cavities as the mold cavities pass beneath the outlet opening;

c. a first support adjacent to the drum for rotatably receiving a roll of open mesh material in web form for feeding the mesh material into contacting engagement with the periphery of the drum and in the drum rotation direction before the trough; and

d. a second support adjacent to the drum and behind the trough in the drum rotation direction for rotatably receiving a roll of a base material in web form for feeding the base material into contacting engagement with the periphery of the drum.

2. Apparatus in accordance with claim 1, wherein the mold cavities are of rectangular shape.

3. Apparatus in accordance with claim 2, wherein the mold cavities are of substantially equal size.

4. Apparatus in accordance with claim 2, wherein the mold cavities are aligned in a peripheral direction of the drum.

5. Apparatus in accordance with claim 4, wherein the mold cavities are aligned in a transverse direction of the drum.

6. Apparatus in accordance with claim 1, wherein the mold cavities are defined by spaced, opposed side walls, spaced, opposed end walls, and a bottom wall defined by a cylindrical drum surface that encloses a drum interior.

7. Apparatus in accordance with claim 6, wherein the cylindrical drum surface includes at least one opening extending therethrough within each mold cavity for allowing communication between the mold cavity and the drum interior.

8. Apparatus in accordance with claim 7, including drum end walls that have drain openings to permit water to drain outwardly from the drum interior.

9. Apparatus in accordance with claim 6, wherein the mold cavity end walls and the mold cavity side walls include outwardly-facing notches for receiving concrete panel connectors.

10. Apparatus in accordance with claim 1, including a wiper extending across the drum at a point downstream of the trough outlet opening for diverting excess concrete mix into adjacent upstream mold cavities.

11. Apparatus in accordance with claim 1, including a rotary member adjacent to and extending across the drum, the rotary member including pressing members adapted to press portions of an open mesh web into respective mold cavities as the drum rotates.

12. Apparatus in accordance with claim 1, wherein the trough includes a movable outlet gate positioned at the trough outlet opening to control volumetric flow rate of concrete mix from the trough.

13. Apparatus in accordance with claim 1, including a vibrator operatively coupled with the trough for inducing and maintaining flow of concrete mix along the trough toward the trough outlet opening.

14. A method for continuously forming a flexible mat defined by a plurality of spaced, interconnected concrete panels, said method comprising:

a. providing a rotatable drum having a plurality of circumferentially-disposed, peripheral mold cavities;

b. feeding a plurality of longitudinally-extending connector elements and a plurality of transversely-extending connector elements into contacting engagement with the periphery of the drum and in overlying relationship with the mold cavities;

c. rotating the drum;

d. depositing a flowable concrete mix into successive mold cavities as the drum rotates to substantially fill the mold cavities to form concrete panels;

e. as the drum is rotating, bringing a web of base material into contacting engagement with the periphery of the drum to overlie and cover filled mold cavities to prevent concrete mix from falling from the mold cavities as the drum is rotating; and

f. continuing to rotate the drum the concrete panels are released from the mold cavities by gravity and are in overlying contact with the web of base material to form a continuous mat having concrete panels that bond to the base material upon curing of the concrete mix, wherein the resulting mat has a predetermined length and width.

15. A method in accordance with claim 14, including the step of providing release openings in a mold cavity surface to allow free release of the concrete panels from the mold cavities as the drum outer surface rotates to approach its lowermost position.

16. A method in accordance with claim 14, including the step of pressing the connector elements into the mold cavities to allow the concrete mix to overlie and enclose a portion of the connector elements.

17. A method in accordance with claim 14, including providing a trough above the rotatable drum for feeding concrete mix into the respective mold cavities as the drum rotates.

18. A method in accordance with claim 17, including the step of vibrating the trough to induce flow of concrete mix therealong in a substantially uniform volume rate of flow across the rotating drum.

19. A method in accordance with claim 14, wherein the connector elements are provided by an open mesh web.

20. A method in accordance with claim 14, including the step of intermixing a plurality of fibers into the concrete mix to interengage with the connector elements when the concrete mix is introduced into the mold cavities.

21. A method in accordance with claim 14, including the steps of resting the periphery of the drum on the ground, and rotating the drum while its periphery is in contact with the ground to deposit the resulting mat directly on the ground